American Council for Drug Education's

Basic Facts Inhalants

What are Inhalants?

Inhalants are drugs that produce a quick, temporary high; lightheadedness; and euphoria (good feeling) when their fumes or gases are breathed and absorbed into the body through the lungs. The high is sometimes compared to the sensation of being drunk. It tends to last only a short time, from a few minutes to about three-quarters of an hour. It may be followed by after-effects like those of an alcohol hangover, such as drowsiness, headache, or nausea, which last for an hour or two.

Compared with other recreational drugs, **inhalants are readily available and relatively cheap.** Many of them can be obtained legally, even by minors, for more than a thousand common household products can be used to get high. It is partly for this reason, and partly because they are mistakenly believed to be safer than other recreational drugs, that inhalants are especially popular among children and young adolescents.

The average age at which adolescents first try these drugs is 13, and one eighth grader in five has used them. Dangerous and potentially lethal in their own right, inhalants often also serve as a gateway to other, stronger drugs.

What are the Main Types?

There are three main types of inhalants:

Organic solvents are liquid compounds of carbon that have the power to break down, or dissolve, other carbon compounds. Organic solvents are also highly volatile; they readily evaporate from a liquid to a gas or aerosol, which can be inhaled.

Many common products are either based on organic solvents or contain high concentrations of them. They include gasoline, lighter fluid and butane lighter fuel, spray paint, paint thinners and removers, transparent glue, rubber-cement thinner, hair spray, nail polish remover, degreasers, and cleaning fluids. Organic solvents are the easiest inhalants to obtain and the most dangerous to abuse.

Nitrites are compounds of nitrogen and act mainly as vasodilators, causing the walls of blood vessels to relax so that the vessels enlarge, or dilate. They are used medically to relieve attacks of angina chest pain caused by insufficient blood flow in the vessels serving the heart. They also tend to depress the activity of the central nervous system, producing the giddiness and euphoria of a high.

The most commonly abused are amyl nitrite and butyl nitrite. Amyl nitrite is usually packaged in small, crushable glass or plastic capsules, known as poppers or snappers. Butyl nitrite often comes in a bottle or spray can and is sold as an air freshener under names such as Rush, Locker Room, or Jac-Aroma.

Nitrous oxide, commonly called laughing gas, was the first inhalant used for recreational purposes. Introduced as an anesthetic in the 1850's, this compound of nitrogen and oxygen is still used medicinally, particularly by dentists. It doesn't completely block pain, but it does alter the perception of pain, so that there is no distress. Nitrous oxide tends to produce a pleasant, dreamy state of consciousness, somewhere between waking and sleep.

For medical use, nitrous oxide is compressed and stored in metal tanks, to which a hose and inhalant mask are attached. The compressed gas is also used to make whipped cream. When packaged in small cartridges, called whippets, and enclosed in a container of cream, the gas mixes with the cream when the nozzle is depressed.

How are they taken?

The three types of inhalants are sniffed or huffed in somewhat different ways:

The fumes from organic solvents may simply be inhaled from their containers. A liquid solvent may also be poured or sprayed on an absorbent material, such as a balled up sock or rag, or a roll of toilet paper, to increase the release of fumes. Abusers often try to concentrate the fumes by putting the solvent in a paper or plastic bag or a rubber balloon, and then holding the open end over the mouth and nose.

The capsules containing amyl nitrite are crushed and held beneath the nose. Butyl nitrite may be inhaled in its container, or, like organic solvents, applied to absorbent cloth or paper.

Nitrous oxide may be inhaled through a mask from a tank of the compressed gas or directly from a punctured whippet. The nozzle of a whipped-cream container can also be depressed in such a way that only the nitrous oxide is discharged.

How do Inhalants Harm You?

Because the immediate after-effects are usually mild and last only a short time, many abusers believe that inhalants are essentially harmless. They are wrong. Inhalants can be very dangerous, both in their immediate effects and their long-term consequences.

Short-term effects

During the high itself and the period of reaction afterward, physical coordination and mental judgment are impaired, much as they are by excessive drinking. Abusers often suffer falls and other accidents and cannot drive safely. They may engage in irresponsible or dangerous behavior, such as reckless violence.

Inhalants irritate the breathing passages, sometimes provoking severe coughing, painful inflammation, and nosebleeds.

Nitrite inhalants often cause intense facial flushing, feelings of severe weakness and dizziness, and heart palpitations.

Inhalants, particularly in heavy doses, may not produce a pleasant high but mental confusion, hallucinations, and delusions of persecution (paranoia) instead.

By depressing the central nervous system, inhalants may dangerously hinder the activity of the nerves that control breathing. The resulting respiratory depression may cause unconsciousness, coma, or even death. The danger is especially great if inhalants are taken along with other nervous-system depressants, such as alcohol or barbiturates (sleeping pills).

Inhaling for an extended time from a bag or balloon may cause a dangerous shortage of oxygen in the lungs. Like respiratory depression, oxygen deprivation (asphyxia) may lead to unconsciousness, coma, or death.

Even first-time users run the risk of sudden sniffing death (SSD). The mechanics are not well understood, but abusers may suffer fatal irregularity of heartbeat (arrhythmia) or complete heart arrest. The risk of SSD seems to be higher if the abuser engages in strenuous physical activity or is suddenly startled.

Long-term effects

Repeated use tends to produce increased tolerance to the drugs and larger doses are needed to achieve the same results. **Heavy doses in turn increase the risk of permanent brain damage,** with effects such as poor memory, extreme mood swings, tremors, and seizures. Heavy, continuous use also increases the risk of heart arrhythmia and respiratory depression.

Nitrite inhalants tend to raise the pressure of the fluid within the eyes. The raised pressure may eventually lead to glaucoma and blindness. Regular nitrite abuse may also cause severe, pounding headaches.

Organic solvents are the most dangerous of all inhalants. They are poisons that break down organic compounds of all kinds including those that make up living cells. Once absorbed into the body, they tend to concentrate in the liver and kidneys, where they are processed for disposal. Repeated, heavy abuse may cause fatal damage to these organs, as well as to the heart and nervous system.

What are the Signs of Abuse?

Certain signs suggest that a person may be abusing inhalants:

- A sweetish, chemical smell on the clothes or body
- Inflammation of the nostrils, frequent nosebleeds, or a rash around the nose and mouth
- Poor appetite and loss of weight
- Pale, bluish skin
- Watery, bloodshot eyes with dilated pupils
- Slow, slurred speech
- Clumsy, staggering gait, and drunken appearance